



UNITED STATES PATENT AND TRADEMARK OFFICE

Sp

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,507	08/23/2003	Jan Arthur Aune	03-0668	9659

8840 7590 03/25/2005

ECKERT SEAMANS CHERIN & MELLOTT, LLC
ALCOA TECHNICAL CENTER
100 TECHNICAL DRIVE
ALCOA CENTER, PA 15069-0001

EXAMINER


HOANG, TU BA

ART UNIT PAPER NUMBER

3742

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/646,507	Applicant(s) AUNE ET AL 	
	Examiner Tu Ba Hoang	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8, 10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-6, 8, 10 and 11 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3742

Response to Amendment

Applicant's amendments/arguments filed 12/21/04 (which has been entered in lieu of the RCE filed 02/02/05) have been fully considered but they are not persuasive as for the following reason:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(a and e) as being anticipated by Johansen et al (US 6,440,193) cited by the Applicants (on page 1 of the specification) and used in the rejection of the claim in the previous Final Office action. Johansen et al shows an electrode arrangement in an electric slag melting furnace (1) comprising a bottom wall and at least one side wall defining the furnace interior, the electrode arrangement comprises vertical electrodes (6) for supply of alternating electric current (i.e., since the electrodes are supplied with alternating electric current (as set forth on page 1, in the paragraph [0002] of the instant application, they will generate alternative electric arcs or arc currents inside the furnace interior) or conventional means (as set forth at column 4, lines 9-11) and also intended to be submerged in the liquid slag bath (2) as set forth at column 4, lines 53-54, and a plurality of side wall contacts or side electrodes (7) along the sidewalls of the furnace (column 4, lines 16-17) with each pair of side wall contacts or electrodes (7) is extending into the furnace interior through sealed openings on the side wall of the furnace.

Claim 1 is also rejected under 35 U.S.C. 102(b) as being anticipated by Titus et al (US 6,127,645) recited in the previous Office action. Titus et al shows an electrode arrangement in an electric slag melting furnace (Figures 2(a) and 4(a) to 4(d)), the electrode arrangement comprises vertical electrodes (22 or 314a,b) for supply of alternating electric current (as set forth at column 7, lines 42-43) and also intended to be submerged in the liquid slag bath 330, a plurality of side wall contacts or side electrodes 86a,86b or 308a,b with each of the side wall contacts or electrodes is extending into the furnace interior through sealed openings on the side wall of the furnace.

Claim 1 is further rejected under 35 U.S.C. 102(b) as being anticipated by Savov et al (US 4,246,023) recited in the previous Office Action. Savov et al shows an electrode arrangement in an electric slag melting furnace, the electrode arrangement

Art Unit: 3742

comprises a plurality of side wall contacts or side electrodes 4a or 16 along the sidewalls of the furnace with the side wall contacts or electrodes are all inserted into sealed openings and extending into the furnace interior through the side wall of the furnace.

Allowable Subject Matter

Claims 2-6, 8, and 10-11 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not show or fairly suggest the side wall contact is equipped with means for moving the side wall contact radially into the furnace in order to compensate for wear of the side wall contact (as recited in claims 5 and 8).

REMARK

In response to applicant's argument with respect to claim 1, "there is a major difference between electrodes and side wall contacts. electrodes are used to supply electric current to the furnace, while side wall contacts are not connected to a power source, but act as a zero point for the current in the furnace. Applicant would be willing to have the examiner insert by Examiner's amendment the following at the end of claim1: "where the at least one side wall contact functions as a zero point for the current supplied to the vertical electrodes" or the like" (page 1 of the amendment, emphasis added). The examiner disagrees as for the reason that electrodes and side wall contacts could be used for providing supplied power such as currents or voltages to the furnace depend upon the nature of their connection. In the case, with the side wall contacts are connected to the ground, they would act as a zero point for the current (or arc current) inside the furnace (i.e., D.C arc furnace), in the other, they can be connected to the hot side of the power source and would act as a cathode (i.e., A.C arc furnace). In either cases, it is clear that the side wall contact has always been connected to the power source as a whole (i.e., by either connected to the ground or to the hot side). Moreover, it is also clear that applicant's argument because the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "side wall contacts are not connected to a power source, but act as a zero point for the current in the furnace" or "the at least one side wall contact functions as a zero point for the current supplied to the vertical electrodes") are not recited in the rejected claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is noted that since claim 1 is directed to an electrode arrangement, such structural limitations of the electric slag melting furnace would have never been given any patentable weight. Thus, the recitations of "said furnace having vertical electrodes for supply of alternating electric current", "said vertical electrodes...", and so on have not been considered as cited positive limitations to contribute the claimed arrangement but only the cited "at least one side wall contact" or a plurality of

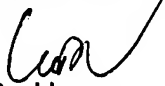
Art Unit: 3742

"side wall contacts" that extends into the furnace interior through the side wall of the furnace. And base on this consideration, the Examiner's position is that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Ba Hoang whose telephone number is (571) 272-4780. The examiner can normally be reached on Mon-fri from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu Ba Hoang
Primary Examiner
Art Unit 3742

March 21, 2005